

#### What is it?

The PastFx Chorus Ensemble Mini (CEM) is based upon the Holy Grail of Chorus pedals, The BOSS® CE-1. First released in 1976 it became famous for lush Chorus and Leslie effect Vibrato.

The CEM is currently the <u>smallest</u> recreation of the *The BOSS® CE-1* available. It is approximately 1/4 of the size and weight of an original. At 40yrs of age, original units can develop reliability issues and require capacitor replacement and extensive servicing. Unmodified working originals are becoming harder to find and are expensive. The CEM requires no fuses and is not powered by mains voltage. With today's advancements in technology, the CEM operates off the same bipolar voltages as *The BOSS® CE-1*, however it only requires standard 9vdc pedal power supply.

#### **Features**

- Uses obsolete 512 stage 1970's bucket brigade chip
- incorporates the "Noise Killer" circuitry
- Same unique Preamp stage
- Normal / effect footswitch
- Vibrato / Chorus toggle switch
- Triangle Wave LFO Chorus
- Sinewave LFO Vibrato
- Not True Bypass (Jfet switching as original)
- Red LED Peak Level Indicator visual feedback of input sensitivity
- · High / Low Input sensitivity changeover switch
- Blue LFO rate LED, visual indication of LFO Rate
- Stereo/ Mono Outputs. In a Stereo setup, wet signal is directed to the Stereo jack and Dry to the Mono output jack.
- Vibrato controls are Depth & Rate
- Chorus is controlled by Intensity knob and Depth (Built in Depth Mod)
- When effect is bypassed the LFO LED indicator remains on without flashing
- Pedalboard friendly, uses minimal real estate and operates off industry standard (9VDC negative tip 2.1mm)

### **Depth Mod**

This mod is popular for those who were wanting more control over their chorus effect.

It allows the use of the Vibrato Depth knob to control the Chorus Depth. The Stock depth setting of the Chorus can still be achieved by turning the Vibrato Depth knob fully clockwise.

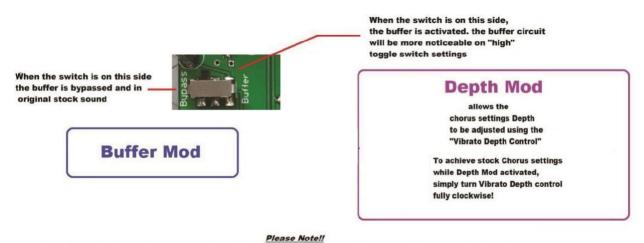
## **Buffer Mod**

Many owners of the original noticed that when selecting the high on the input sensitivity switch that some of the high frequencies of their signal was lost. This was a desirable outcome for some. To remedy this, some users would place a buffer before the BOSS® CE-1 to restore the high frequencies. The CEM comes with an inbuilt buffer circuit which can be added or removed as desired.

Note: When clipping the signal heavily by having the Level control on high, it can give various responses based on what type of amp is being played through.

On some amps it can almost sound like a fuzz, and on others a more traditional crunch sound! This is the same experience with the original.

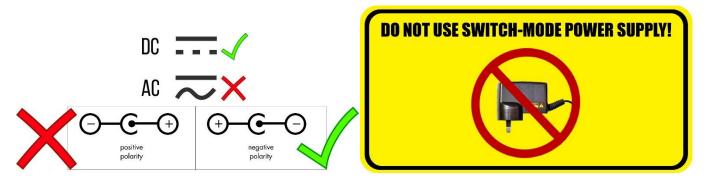
When activated, the Buffer Mod is always on.



when the Buffer circuit is engaged it will start to induce extra noise when preamp is on its highest settings! Please adjust accordingly to get the least amount of noise!

# Please Do Not Use Cheap Switch-Mode Power Supplies!

- This pedal draws approximately 100-120ma, so 200ma minimum PSU should be more than adequate
- It requires 9vDC 2.1mm jack negative tip supply. Regulated, Isolated Linear / Transformer based supply
- High Quality Audio Switch-mode supplies like Cioks DC7 are excellent and recommended, however please avoid using PSU's that look similar to the picture below in yellow!



Up until the mid-2000's most 9vdc pedal power supplies available were Linear / Transformer based. However most manufacturers have taken the lower cost path in manufacturing switchmode supplies. These are generally lighter in weight, and more economically appealing. An Apple/Samsung wall charger for example uses switchmode technology. Unfortunately from the frequent switching from fully on to fully off the repeated switching can introduce noise into effect pedal. Modulation and high gain effects can be more noticeable.

A budget switchmode supply may work fine on a simple overdrive pedal, but this does not transfer to the CEM. It is acknowledged that many newer high end switchmode based power supplies have improved immensely over the last few years, and may work fine in your pedal.

However PastFx still only recommends Linear power supplies with the exception of Pro Audio switch-mode supplies.

Power supplies we recommend but not limited to:

- Voodoo Lab Pedal Power ® 2 Plus etc.
  - Cioks DC7/4/8/10.
  - Walrus Audio Phoenix / Aetos.
- Electro-Harmonix US96DC-200BI.(US transformer version)
- Electro-Harmonix UK96DC-200BI.(UK transformer version)
- Electro-Harmonix EU96DC-200BI.(EU transformer version)
  - Joyo® JP-04 Isolated Power Supply
  - T-Rex® Junior/Classic/Chameleon Fuel Tanks
    - Truetone 1 Spot PRO CS6/7/12 only
      - Gigrig Generator
      - Eventide PowerMax / Mini
    - Strymon Zuma/Zuma R300/Ojai R30
      - Donner® DP-4 ISO 8 PLUS
        - Mosky®C8 Power Station
      - Harley Benton Powerplant Junior

## **Linear Transformer Power Supply**

# Switch mode power supply





Both PSU's convert Mains AC to DC. The switch-mode is cheaper to manufacturer, produces less heat, but can introduce more noise than the Linear Supply. For Best Performance only use a quality Regulated, Isolated Linear power supply or professional high quality guitar intended switch mode.

Pending availability a 9v Battery to 2.1mm DC Jack adapter cable may accompany your pedal. This cable is not intended to permanently operate your pedal. Although batteries may be used, they will have a shorten life due to the high current requirements of the pedal. They are included as a troubleshooting tool. A 9v battery is a perfect no noise isolated power source, which can be used to test the pedal works perfectly and to be a reference with questionable power supplies to determine noise.



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